

REMARKS

Applicant has reviewed and considered the Office Action mailed on February 20, 2009 and the references cited therein.

Claims 1, 20, 32, and 39 are amended, claims 2, 22, and 33 are canceled, and claims 47 and 48 are added. As a result, claims 1, 3-21, 23-32, 34-43, and 47-48 are now pending in this application.

Claim Objections

Claims 20 and 39 were objected to because of an informality. These claims have been amended in a manner that is believed to address the Examiner's concerns. No new matter has been added.

35 U.S.C. § 101 Rejection of the Claims

Claims 1-19 were rejected under 35 USC § 101 as being directed to non-statutory subject matter.

Independent claim 1 has been amended to describe the method as a "computer implemented" method. Support for this amendment can be found at least at page 13, line 19 to page 14, line 28 of the specification-as-filed. The Examiner takes the position that structure recited in a preamble alone does not constitute adequate structural ties per se. However, the Examiner has not cited any legal support for this position. Applicant's submit that structural limitations within a preamble can provide the structural ties needed to support a statutory process claim. If the Examiner maintains this rejection, it is respectfully requested that he provide legal support for this position (e.g., specific language within *Bilski*, etc.).

In addition to the above, claim 1 also provides structure in the body of the claim by recitation of the "user devices" that are the subjects of the elements of the claim.

Dependent claims 2-19 were rejected due to their dependency from independent claim 1.

Based on at least the foregoing, it is respectfully requested that the rejection of claims 1-19 under 35 USC § 101 be withdrawn.

35 U.S.C. § 112 Rejection of the Claims

Claims 32-38 were rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Applicants respectfully traverse this rejection. The specification and drawings as filed describe an embodiment of a method in the flowchart of Fig. 2 and the accompanying description. Fig. 10 illustrates an example SDMA-based wireless access point architecture 180 in accordance with an embodiment of the invention, that includes a controller 186 that “controls the overall operation of the wireless AP 180.” (See page 13 of the specification as filed). “The controller 186 may be implemented using, for example, one or more digital processing devices.” (See page 13 of the specification as filed). The specification goes on to say “In at least one embodiment of the present invention, the controller 186 is configured to carry out the method 30 of Fig. 2 to support downlink SDMA in a corresponding network.” (See page 13 of the specification as filed). On page 14, the specification further teaches “in at least one embodiment, two or more of the blocks [of Fig. 10] are implemented in software within a single (or multiple) digital processing device(s). The digital processing device(s) may include, for example, a general purpose microprocessor, a digital signal processor (DSP), a reduced instruction set computer (RISC), a complex instruction set computer (CISC), a field programmable gate array (FPGA), an application specific integrated circuit (ASIC), and/or others, including combinations of the above. Hardware, software, firmware, and hybrid implementations may be made.” It is submitted that a person of ordinary skill in the art, given the above teachings, would be able to make and/or use the invention without undue experimentation. For example, such a person would know that a “software” or “firmware” implementation would require “a computer readable storage medium having instructions”

Based on the foregoing, it is respectfully requested that the rejection under 35 USC § 112, first paragraph be withdrawn.

35 U.S.C. § 103 Rejection of the Claims

Claims 1, 2, 4-6, 17-22, 24, 25, 32-34, and 39-42 were rejected under 35 USC § 103(a) as being unpatentable over *Walton et al.* (U.S. Patent Publication No. 2005/0111599A1) in view of *Hilsenrath et al.* (U.S. Patent No. 6,026,304).

Independent claims 1, 20, 32, and 39 have each been amended herein to recite that the selection of an orthogonal set from a plurality of orthogonal sets is “based on an amount of data that is buffered for delivery to user devices within each of said identified orthogonal sets.” Neither Walton et al. nor Hilsenrath et al. discloses or suggests selecting an orthogonal set in this manner. In the rejection of previous dependent claims 2, 22, and 33 in the office action, the Examiner takes the position that Walton discloses this subject matter in paragraph 6. The Applicants respectfully disagree. Paragraph 6 of Walton indicates that one of the key challenges for SDMA in a multiple access MIMO system is “transmitting data to and/or from each selected user terminal in a manner to achieve good system performance.” This text does not teach, nor does it imply or suggest, the selection of an orthogonal set “based on an amount of data that is buffered for delivery to user devices within each of said identified orthogonal sets.” It merely states that good system performance is a goal.

Based on the foregoing, it is submitted that independent claims 1, 20, 32, and 39 are not rendered obvious by the combination of Walton et al. and Hilsenrath et al. Reconsideration and allowance of these claims is therefore respectfully requested.

Claims 4-6 and 17-19, claims 21 and 24-25, claim 34, and claims 40-42 are dependent claims that depend either directly or indirectly from independent claims 1, 20, 32, and 39, respectively. Consequently, these claims are allowable for at least the same reasons as their corresponding base claims. These claims also provide further bases for patentability.

Dependent claims 2, 22, and 33 have been canceled herein without prejudice.

Claims 7-11, 13, 14, 16, 26, 27, 29-31, 35-38, and 43 were rejected under 35 USC § 103(a) as being unpatentable over *Walton et al.* (U.S. Patent Publication No. 2005/0111599A1) in view of *Hilsenrath et al.* (U.S. Patent No. 6,026,304) and further in view of *Kasami et al.* (U.S. Patent Publication No. 2002/0181492A1).

Claims 7-11, 13-14, and 16, claims 26-27 and 29-31, claims 35-38, and claim 43 are dependent claims that depend either directly or indirectly from independent claims 1, 20, 32, and

39, respectively. Consequently, these claims are allowable for at least the same reasons as their corresponding base claims. These claims also provide further bases for patentability.

The present office action relies upon at least one 35 USC § 102(a) or 35 USC § 102(e) reference. Please note that no part of the present response is to be deemed an admission that these references are valid prior art in the present application. As such, the Applicants reserve the right to swear behind these references at a later date.

New Claims

New independent claims 47 and 48 have been added. The office action objects to dependent claims 12 and 15 as being dependent upon a rejected base claim, but indicates that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims have been rewritten herein, with some variations, as new claims 47 and 48, respectively. It is submitted that these new claims are in form for allowance. Reconsideration and allowance of claims 47 and 48 is therefore respectfully requested.

Allowable Subject Matter

Claims 3, 12, 15, 23, and 28 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As described above, claims 12 and 15 have been rewritten in independent form herein.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (480-948-3745) to facilitate prosecution of this application.

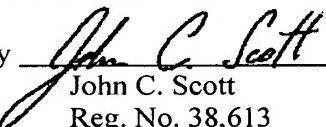
Respectfully submitted,

ADRIAN P. STEPHENS ET AL.

By their Representatives,

CUSTOMER NUMBER: 45643
480-948-3745

Date: April 20, 2009

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20th day of April, 2009.

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